

UNITED STATES MARINE CORPS  
Basic Officer Course  
The Basic School  
Marine Corps Combat Development Command  
Quantico, Virginia 22134-5019

B8603

**COMBAT-RELATED INJURIES**Student Handout

1. **Introduction.** The difference between life and death can be measured in minutes after a Marine suffers a severe injury. On the battlefield, only an individual who is trained in first aid to the point where recognizing and treating a life-threatening wound is second nature will be able to save a fellow Marine's life. This handout and the accompanying lecture will prepare you to render effective first aid for combat-related injuries and to teach your Marines the same skills.

2. **Shock**

a. Shock may be caused by severe or minor trauma causing pain to the body. It can be the result of a significant blood loss, heart failure, severe and painful blows to the body, burns, severe wounds that become infected, a severe allergic reaction to drugs or certain foods, certain insect bites, snakebites, or dehydration.

b. Shock stuns and weakens the body. When the normal blood flow in the body is upset, death can result. Early identification and proper treatment may save the injured Marine's life.

c. The objective is to administer first aid measures that prevent shock from developing or worsening. This can be done by elevating the casualty's feet and loosening the clothing. Place a blanket or like item over and under the victim to prevent chilling.

d. Signs and symptoms of shock. Examine the casualty for any of the following signs or symptoms:

- (1) Sweaty but cool skin
- (2) Pale skin
- (3) Restlessness, nervousness
- (4) Thirst
- (5) Loss of blood (caused by internal or external bleeding)
- (6) Confusion or loss of awareness
- (7) Faster than normal breathing rate
- (8) Blotchy or bluish skin (especially around the mouth and lips)
- (9) Nausea and vomiting

e. Treatment and prevention of shock. In the field, the procedures followed to treat for shock are identical to procedures that would be performed to prevent shock. When treating a Marine, assume that shock is present or will occur shortly. By waiting until actual signs or symptoms of shock are noticeable, the rescuer may put the casualty's life in jeopardy.

(1) Position the casualty. Do not move the casualty or his or her limbs if suspected fractures have not been splinted.

(2) Move the casualty to cover if the situation permits.

(3) Lay the casualty on his or her back.

**NOTE:** Some casualties who may be in shock after suffering a heart attack, chest wound or breathing distress may breathe easier in a sitting position. If this is the case, allow them to sit upright, but monitor their condition carefully.

(4) Elevate the casualty's feet higher than the level of the heart. Use a stable object (a box, field pack, or rolled up clothing) so that the feet will not slip off.

CAUTION - Check casualty for leg fracture(s); splint before elevating the feet.

(5) Loosen clothing at the neck, waist or wherever it may be binding.

(6) Prevent chilling or overheating.

(7) Calm the casualty.

NOTE: Food and drink. During the treatment or prevention of shock, do not give the casualty any food or drink. If the casualty is unconscious, turn his or her head to the side so that, in case he or she vomits, the victim will not choke on the vomitus.

### 3. **The Three Types of Soft Tissue Injuries**

#### a. Closed wounds

(1) Closed wounds are commonly caused by blunt objects striking the body with sufficient force to crush the tissues beneath the skin. A contusion or bruise will commonly develop beneath the surface of the skin, which characteristically remains unbroken.

(2) Contusions are characterized by swelling and pain, caused by the blood leaking into the wound. This "leaking blood" will cause the characteristic black and blue marks.

(3) When serious amounts of tissue are damaged (to include the underlying blood vessels), a lump may develop rapidly. This is known as a hematoma or, literally, a blood tumor.

#### b. Open wounds. Open wounds may be classified as either abrasions, lacerations, incisions, or puncture wounds.

(1) Abrasions. An abrasion is a loss of a portion of the epidermis and part of the dermas from its being rubbed or scraped across a hard surface. It is extremely painful, and blood may ooze from injured capillary vessels at the surface. It does not penetrate completely through the skin.

(2) Lacerations. A laceration is a cut produced by glass, metal, or any other object that may leave a jagged wound on the skin surface and cut through the subcutaneous tissue, the underlying muscles, associated nerves, and blood vessels.

(3) Incisions. These are similar to lacerations, except that the wound will be somewhat "cleaner," having no jagged edges.

(4) Puncture wounds. Puncture wounds may result from a stab with a knife, nail, ice pick, splinter, or any other pointed object. They may also result from gunshot injuries. External bleeding is usually not severe from a puncture wound because the wound is so small. However, these instruments may injure major vessels within body cavities and cause rapid, fatal bleeding within the chest or abdomen. There is no way for you to assess the amount of damage sustained from a puncture wound. Ordinarily such assessment requires an exploratory operation in either the chest, the abdomen, or the extremity involved. Extensive damage should always be suspected. Some puncture wounds, especially those in extremities, may traverse the entire limb to exit the opposite side. These are perforating (through and through) wounds. The Marine should always seek and note an exit wound, especially in the case of a gunshot wound.

#### c. Special wounds. In this category are avulsions, crushings, and amputations.

(1) Avulsion. An avulsion is an injury in which a whole piece of skin with varying portions of tissue or muscle is either torn loose completely or left hanging as a flap. Occasionally, avulsed tissue will be torn completely free and will be lying apart from the injured Marine. This tissue, if it is readily available, should be retrieved and transported along with the casualty to the hospital. It should be wrapped in a sterile gauze and placed in a plastic bag, which should then be placed in a cooled container. The tissue should not be allowed to freeze.

(2) Crushings. Crushing wounds are contusions which are more severe, as the underlying skeletal support is also damaged. Crushing wounds may or may not be characterized by open skin.

(3) Amputations. Traumatic amputations may be caused by explosions, sharp objects, or by separations. An amputation is characterized by the separation of either digits (fingers, toes, etc.) or limbs from the victim's body. In most cases,

a tourniquet will be required to stop the bleeding in the major artery which formerly supplied blood to the extremity. If possible, the extremity should be prepared (if completely separated) and transported with the victim to the medical facility. Should it still be partially attached, splint it as with fractures.

#### 4. The Three Types of Bleeding

a. Arterial bleeding is characterized by the flow of bright red blood (due to the oxygen content) that pumps out in distinct spurts. The flow can be alarmingly profuse. Arterial bleeding is not likely to clot unless the flow of blood is minimal or the artery is very small. If an artery is completely severed, it has the tendency to constrict and seal itself off. Severe arterial bleeding could cause a victim to bleed to death in two to three minutes. Immediate first aid is imperative.

b. Venous bleeding is characterized by a steady flow of dark red or maroon-colored blood. Although venal bleeding may be profuse, it is much easier to control than arterial bleeding. Because blood in the larger veins is being drawn to the heart by the sucking action that develops as the heart contracts and relaxes, air may be drawn through the opening into the vein. If the air bubble is large enough, the ability of the heart to pump properly is hindered, and the heart may fail completely.

c. Capillary bleeding is characterized by the slow oozing of blood, usually from minor wounds. Because of the large amount of surface area that may be involved, the threat of contamination may be more serious than blood loss.

#### 5. The Three Methods to Control External Bleeding

a. Mild bleeding may be controlled by both elevating the wound and by the application of direct pressure. Apply pressure to the wound using a sterile dressing. Do not attempt to replace a dressing once it is held in place even though it may become blood-soaked. Replacing a dressing releases pressure on the cut blood vessels, interferes with normal coagulation, and increases the probability of contamination. Rather than replacing the dressing, place another one on top of the soaked dressing and hold them all in place.

b. Serious bleeding. Use a combination of one or more of the following treatments:

(1) Direct pressure on the wound. This is the single most effective method for stopping serious bleeding. If a bandage is not immediately available, the hand or fingers can be used (inside the wound if necessary) to bring direct pressure to bear. The importance of quick action of this type outweighs the possibility of infection later.

(2) Pressure points

(a) Should efforts to control bleeding by direct pressure fail, the application of pressure at a pressure point can be used effectively.

(b) A pressure point is a location where the main artery to the injury site lies near the surface of the skin and directly over a bone. There are twenty-two pressure points throughout the body. The three most effective pressure points are over the brachial (arm), femoral (upper thigh), and carotid (neck) arteries.

(c) Place the heel of your hand over the pressure point and exert pressure downwards toward the bone until it is obvious that the bleeding has been controlled. If the casualty is very muscular or obese, you may have to exert considerable pressure to compress the artery.

(3) Tourniquet. If the previous two methods of controlling bleeding fail, a tourniquet should be used, but only as a last resort! A tourniquet must be used intelligently and with the full understanding of its functions. Should the tourniquet be used improperly, it can prove to be more harmful than beneficial. It was once believed that a tourniquet should be loosened every twenty minutes. It is now known that a tourniquet, once applied, should be left in place until a doctor can examine the casualty. There are three reasons for leaving the tourniquet in place:

(a) Loosening of the tourniquet may dislodge blood clots.

(b) Loosening the tourniquet will result in sufficient additional bleeding to cause severe shock and death.

(c) "Tourniquet shock," thought to be caused by harmful substances released by injured tissues, is now recognized as a very real danger. The harmful substances released by the injured tissue are held back by the tourniquet and then allowed to enter the circulatory system in high concentration. It must be understood that in all probability, if a tourniquet is applied to a limb, the limb will have to be amputated. Thus, the application of a tourniquet may save a life at the cost of the limb.

(d) When applying a tourniquet, the following steps should be taken:

1 \_\_\_\_\_ Select a place between the wound and the heart, as close to the wound as possible.

2 \_\_\_\_\_ Place a pad, made from a dressing or other suitable material, over the main artery supplying blood to the limb.

3 \_\_\_\_\_ Apply a constricting band over the pad, knot it and insert a device to tighten the tourniquet. Ropes, pieces of wire or other thin materials should not be used because they could cut into the tissues of the limb.

4 \_\_\_\_\_ Tighten the tourniquet just enough to control the bleeding. If it is unnecessarily tight, it will cause excessive damage to the limb.

5 \_\_\_\_\_ Mark the casualty's forehead with "T" and the time and date the tourniquet was applied FOR EACH TOURNIQUET APPLIED!

**REMINDER:** A tourniquet should be used only as the last resort to control life-threatening bleeding that cannot be controlled by any other means. Even then, the tourniquet should be used only with the full understanding that it may mean the loss of the limb to which it is applied.

6. **General Principles of Emergency Care for Open Wounds.** An open wound is any wound in which the surface of the skin has been broken. Open wounds are usually categorized as puncture wounds, abrasions, lacerations, or incisions. A special case in the puncture wound category is the impaled object. An excellent example of the impaled object is a bayonet in the abdominal area in which the bayonet has not been extracted. In the case of impaled objects, it is important to remember not to extract the object and to immobilize the object so that it will not cause further damage. Otherwise, all open wounds should be treated in accordance with the following principles:

a. Control the bleeding by direct pressure, pressure points, or as a last resort, a tourniquet.

b. Prevent contamination with a sterile dressing.

(1) Aside from serious blood loss, the danger of infection from an open wound should be your principal concern. The field dressing carried by every Marine in the field consists of two parts: a sterile dressing and a bandage to hold the dressing snugly in place.

(2) Under emergency situations, it is not necessary to apply bandages in accordance with pictures found in textbooks. However, it is imperative to apply all bandages using the following principles:

(a) When direct pressure is not required, do not apply the bandage too tightly, as the blood supply to the lower extremities may be restricted.

(b) Do not apply the bandage too loosely (the most common error), because it will not hold the dressing in place. The bandage must be applied snugly, as it will stretch over a period of time.

(c) When bandaging extremities, leave fingers and toes exposed so that color changes may be noted. Pain, pale skin, numbness and tingling all indicate a bandage which is too tight.

c. Immobilize and elevate the injured part in the event of serious bleeding, providing it will not aggravate other injuries. (Procedures on immobilization will be covered in B8604).

7. **Internal Bleeding.** Do not be misled into thinking that internal bleeding occurs only in abdominal and chest cavity injuries. A casualty can lose one to three pints of blood, internally, from a broken femur (thigh bone) or pelvis. A casualty can actually bleed to death without externally losing a drop of blood.

a. Symptoms. Due to the loss of blood, blood pressure will drop. To compensate for this pressure drop, the heart will beat faster in an attempt to raise the pressure. The force of the heartbeat is reduced since there is less blood to pump. Internal bleeding can be suspected when the situation surrounding the injury indicates internal damage and the signs of shock are present without an obvious injury. In some cases, the casualty may be coughing up dark red blood or vomiting blood that has the appearance of coffee grounds. In the case of internal bleeding in the abdominal area, the abdomen will become very stiff or develop muscle spasms. Symptoms include:

(1) Rapid and weak pulse

(2) Pale, moist and cold skin

- (3) Shallow and rapid respiration
- (4) Thirst
- (5) Dilated pupils
- (6) Coughing up dark red blood the color of coffee grounds
- (7) Stiff abdominal muscles

b. Treatment

- (1) Treat for shock
- (2) Give nothing by mouth
- (3) Evacuate as soon as possible

8. **Open Chest Wounds**

a. Symptoms. The primary symptom of an open or "sucking" chest wound is a hole in the chest wall. Another major symptom in extreme cases is the coughing up of bright red, frothy blood. Other symptoms include, but are not limited to:

- (1) Pain at the site of the injury
- (2) Pain that is aggravated by or occurs with breathing, localized around the site of an injury in the chest
- (3) Dyspnea (difficulty or pain with breathing)
- (4) Failure of one or both sides of the chest to expand normally when inhaling
- (5) A rapid, weak pulse and low blood pressure
- (6) Cyanosis (discoloration) of the lips, fingertips, or fingernails

b. Treatment. A chest wound which results in air being sucked into the chest cavity is particularly dangerous. This will probably cause the lung on the injured side to collapse. Be sure to examine the casualty carefully so that you do not miss a second hole or an exit wound. If applicable, cut or remove the casualty's clothing to expose the entire area of wound. Emergency treatment should then proceed as follows:

- (1) Use a field dressing plastic wrapper.
- (2) Tear open one end of the plastic wrapper covering the field dressing. Be careful not to destroy the wrapper.
- (3) Remove the inner packet (field dressing).
- (4) Complete tearing open the empty plastic wrapper, creating a flat surface using as much of the wrapper as possible.
- (5) Place wrapper over wound. Place the inside surface of the plastic wrapper directly over the open chest wound as the casualty exhales and hold in place.
- (6) Apply dressing to the wound.
- (7) Using the free hand, shake open the field dressing and place the white side of the dressing directly over the plastic wrapper covering the open wound, holding it securely in place to create an airtight dressing.
- (8) Place casualty on injured side. Position the casualty on his injured side or in a sitting position, whichever makes breathing easier.
- (9) Make the victim warm and evacuate as soon as possible.

(10) Once a casualty is treated for an open chest wound, a condition known as tension pneumothorax may develop. Air pressure within the chest cavity builds up to such a degree that the collapsed lung is pressed firmly against the uninjured lung and heart, interfering both with the ventilation of the good lung and with heart action. If you see the casualty's condition worsen for no apparent reason, unplug the seal immediately. If tension pneumothorax exists, there will be an escape of air, and the casualty's condition will improve almost immediately as pressure is released from the uninjured lung and heart. The wound should then be resealed.

## 9. Abdominal Wounds

a. The abdominal cavity is lined by a smooth, glistening, thin tissue called the peritoneum. This tissue is in turn surrounded by a layer of muscles on all sides. The organs inside are classified as either solid organs or hollow organs.

b. The construction of the abdominal organs greatly influences their vulnerability to injury. Injuries to solid organs may result in their bleeding into the abdominal cavity. Hollow organs may discharge harmful bacteria and chemicals.

c. Symptoms. Injuries to the abdomen are often difficult to diagnose. Other than the obvious signs of a wound or an impaled object, the symptoms are:

(1) Nausea and vomiting are good indications of abdominal injury, especially if the vomitus contains blood.

(2) Pain, although usually minimal in the abdomen.

(3) Tenderness.

(4) Muscle spasms or a stiffening of the abdominal muscles suggests the irritation of the lining of the abdominal cavity.

(5) Shock.

(6) Bruises and abrasions.

d. Treatment for open abdominal wounds is as follows:

(1) Position the casualty on his or her back with the knees flexed up to relieve pressure on the muscles of the abdomen.

(2) Expose the wound. Remove loose clothing from the wound, leaving clothing that is stuck in place.

(3) With a clean, moist dressing, gently pick up any organs which may be on the ground. Place the organs on top of the casualty's abdomen. DO NOT attempt to replace any protruding organs.

(4) Apply moist field dressing.

NOTE: If the dressing wrapper is large enough to extend well beyond the protruding bowel, the sterile side of the dressing wrapper can be placed directly over the wound with the field dressing on top.

(a) Grasp tails of dressing with two hands.

(b) Hold dressing directly over wound with white side down. Pull dressing open and place directly over wound.

(c) With one hand, hold dressing in place and use the other hand to wrap one of the tails around the body.

(d) Wrap the other tail in the opposite direction until the dressing is completely covered.

(e) Tie the tails with the knot at the patient's side.

CAUTION - Casualties with abdominal wounds should not be given anything by mouth.

- (5) Treat for shock and evacuate as soon as possible.

10. **Burns.** The skin serves to isolate the body from its environment, to protect the body from bacterial invasion, to control the temperature of the body, to retain the fluids of the body, and to furnish information about the external environment to the brain through its nerve endings. Any damage of this surface covering allows a break in these mechanisms. Burn injuries are generally rated in terms of damage to the skin. Specifically, they are classified by percentage of surface damaged and depth of damage through the various layers of the skin.

- a. Classification. Burns are classified in degrees from ONE to THREE.

(1) First-degree burns are limited to the most superficial layer of the epidermis and result only in reddening of the skin.

(2) Second-degree or partial-thickness burns cause damage into but not through the dermas and characteristically result in blisters forming on the skin.

(3) Third-degree or full-thickness burns destroy the skin down to the subcutaneous fat. In this type of burn, the skin may appear pale, dry, and white or it may be brown or charred. Clotted blood vessels may be seen through the skin, and occasionally the bone structure is exposed. With third degree burns, the nerve endings in the skin are usually destroyed, and the victim will feel no pain. Such a casualty must be evacuated as soon as possible. THIRD DEGREE BURNS ARE LIFE THREATENING EMERGENCIES.

b. When determining the seriousness of burn injuries it is not so much the TYPE of burn but the LOCATION and AMOUNT of skin surface that is burned. An individual with second degree burns covering 40% of his body, located on the face and neck, is in far worse shape than someone who has sustained a third degree burn covering 15% of his leg.

c. There are many sources of burns. Before administering the proper first aid, you must be able to recognize the type of burn to be treated. There are three types of burns:

(1) Thermal burns are caused by contact with fire, hot objects, hot liquids, gases, or nuclear blast or fire ball.

(2) Electrical burns are caused by contact with electrical wires, current, or lightning.

(3) Chemical burns are caused by contact with wet or dry chemicals or white phosphorus (from marking rounds and grenades). Chemical burns require special treatment in that the chemical must be removed for the burning to stop.

- d. Treatment

- (1) Remove the casualty from the source of the burn.

(a) Remove and cover the thermal burn casualty with a field jacket or any large nonsynthetic material and roll him or her on the ground to smother (put out) the flames.

(b) Remove electrical burn casualties from the electrical source by using any nonconductive material, such as rope, clothing, or dry wood. DO NOT touch the casualty with your bare hands.

(c) Remove chemical burn casualties from the chemicals. Remove liquid chemicals by flushing with as much water as possible. Remove dry chemicals by brushing off loose particles and then flushing with large amounts of water, if available. Remove white phosphorus (WP) from the skin by brushing with a damp cloth or scraping with a knife.

- (2) For FIRST and SECOND degree burns with closed blisters ONLY:

(a) Immerse the burned part in cold water for two to five minutes if the patient is seen within fifteen minutes of the time of injury and the burn involves less than 20% of the total body surface.

(b) Cover the burn with a moist, sterile dressing.

(c) Do not puncture the blisters on second degree burns.

(d) DO NOT APPLY CREAMS OR OINTMENTS!

(e) Transport the patient promptly to a medical facility.

(3) For THIRD degree burns or SECOND degree burns with open blisters:

(a) Examine for and relieve any respiratory distress. Always anticipate respiratory difficulty when there are burns about the face and neck or when the patient has been exposed to hot gases or smoke. Stand by to administer CPR.

(b) Cover the burned area with a dry sterile dressing or a clean sheet.

(c) Treat the patient for shock if it is present, and make him as comfortable as possible.

(d) Transport the patient promptly to the nearest medical facility.

(e) DO NOT APPLY CREAMS OR OINTMENTS!

11. **Conclusion.** Train yourself and your Marines to be able to immediately recognize and treat combat-related injuries. Lives depend on it.

### QUESTIONS:

1. The diagnostic signs of shock are:

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.
- d. \_\_\_\_\_.
- e. \_\_\_\_\_.
- f. \_\_\_\_\_.
- g. \_\_\_\_\_.
- h. \_\_\_\_\_.
- i. \_\_\_\_\_.

2. The proper emergency treatment for shock includes:

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.
- d. \_\_\_\_\_.
- e. \_\_\_\_\_.

3. When treating for shock, do not give the casualty \_\_\_\_\_.

4. A(n) \_\_\_\_\_ that has been completely severed has the tendency to constrict and seal itself.

5. Match the type of external bleeding with the appropriate characteristics:

- |                |                              |
|----------------|------------------------------|
| Arterial _____ | a. Steady dark flow of blood |
|                | b. Alarmingly profuse        |
| Venous _____   | c. Dark maroon in color      |

- Capillary \_\_\_\_\_
- d. Slow oozing of blood
  - e. Threat of contamination more serious than blood loss
  - f. Bright red blood
  - g. May be profuse
  - h. Possible priority over stoppage of breathing
6. The three methods of controlling serious bleeding are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
7. The most effective means of controlling bleeding is \_\_\_\_\_.
8. Under no circumstances should anything be inserted into a wound because it would cause contamination.
- a. True
  - b. False
9. A tourniquet should not be loosened because \_\_\_\_\_ will dislodge and the body will suffer from \_\_\_\_\_.
10. Give an example showing the proper format for marking the forehead after a tourniquet has been applied:
11. In all probability, should a tourniquet be applied to a limb, the limb \_\_\_\_\_.
12. List the basic steps in applying a tourniquet:
- a. \_\_\_\_\_.
  - b. \_\_\_\_\_.
  - c. \_\_\_\_\_.
  - d. \_\_\_\_\_.
  - e. \_\_\_\_\_.
13. How tightly should a tourniquet be tightened? \_\_\_\_\_.
14. What are the three principles of treating open wounds?
- a. \_\_\_\_\_.
  - b. \_\_\_\_\_.
  - c. \_\_\_\_\_.
15. What are the three principles of bandaging?
- a. \_\_\_\_\_.
  - b. \_\_\_\_\_.
  - c. \_\_\_\_\_.
16. What are the symptoms of a bandage that has been applied too tightly? \_\_\_\_\_.
17. When applying a bandage, what is the most common error? \_\_\_\_\_.
18. When treating an open wound involving an impaled object what two things must you remember?
- a. \_\_\_\_\_.
  - b. \_\_\_\_\_.
19. Which of the following are symptoms of internal bleeding?

- a. Rapid weak pulse
- b. Pale, moist, and cold skin
- c. Shallow and rapid respiration
- d. Thirst
- e. Dilated pupils
- f. Coughing up dark red blood, the color of coffee grounds
- g. Stiff abdominal muscles

20. What is the proper emergency treatment for internal bleeding?

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.

21. The two principal symptoms of a sucking chest wound are \_\_\_\_\_ and \_\_\_\_\_.

22. The wound must be sealed to \_\_\_\_\_.

23. What are the symptoms of an abdominal wound?

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.
- d. \_\_\_\_\_.
- e. \_\_\_\_\_.
- f. \_\_\_\_\_.

24. \_\_\_\_\_ organs may dispense bacteria and chemicals into the abdominal cavity whereas \_\_\_\_\_ will bleed.

25. What are the steps for proper emergency care for abdominal injuries?

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.
- d. \_\_\_\_\_.
- e. \_\_\_\_\_.

26. What are the three classifications of burns?

- a. \_\_\_\_\_.
- b. \_\_\_\_\_.
- c. \_\_\_\_\_.

27. A reddened, painful burn, affecting the outer layer of the skin is a \_\_\_\_\_ burn.

28. A \_\_\_\_\_ has blisters.

29. The major steps in the application of first aid for FIRST and SECOND degree burns (with closed blisters) include:

a. \_\_\_\_\_.

b. \_\_\_\_\_.

c. \_\_\_\_\_.

d. \_\_\_\_\_.

e. \_\_\_\_\_.

ANSWERS:

1.
  - a. Sweaty and cold skin.
  - b. Pale skin.
  - c. Restlessness, nervousness.
  - d. Thirst.
  - e. Loss of blood.
  - f. Confusion (or loss of awareness).
  - g. Faster than normal breathing rate.
  - h. Blotchy or bluish skin (mouth and lips).
  - i. Nausea and vomiting.
2.
  - a. Position the casualty.
  - b. Elevate the feet (if no fractures present).
  - c. Loosen clothing.
  - d. Maintain body temperature.
  - e. Calm the casualty.
3. When treating for shock, do not give the casualty any food or drink.
4. An artery that has been completely severed has the tendency to constrict and seal itself.
5. Match the type of external bleeding with the appropriate characteristics:  
  
Arterial b, f, h  
Venous a, c, g  
Capillary d, e
6. The three methods of controlling serious bleeding are direct pressure, pressure points, and tourniquet.
7. The most effective means of controlling bleeding is direct pressure.
8. b. False. (The fingers or a palm may have to be inserted into the wound to control profuse bleeding. The threat of the loss of blood is much more serious than the potential contamination of the wound.)
9. A tourniquet should not be loosened because blood clots will dislodge and the body will suffer from tourniquet shock.
10. T 0830 2 MAR.
11. In all probability, should a tourniquet be applied to a limb, the limb will be lost.
12.
  - a. Select a place between the wound and the heart.
  - b. Place a pad over the main artery.
  - c. Apply a constricting band and insert a device to turn the tourniquet.
  - d. Tighten the tourniquet just enough to control the bleeding.
  - e. Mark the forehead with T and the time and date for each tourniquet applied.
13. How tight should a tourniquet be tightened? It should be tightened just enough to control the bleeding.
14.
  - a. Control the bleeding.
  - b. Prevent contamination with a dressing.
  - c. Immobilize and elevate the injured part in the event of serious bleeding.
15.
  - a. Do not apply it too tightly when direct pressure is not required.
  - b. Do not apply the bandage too loosely.
  - c. When bandaging extremities, leave fingers and toes exposed so that color changes may be noted.
16. What are the symptoms of a bandage that has been applied too tightly? Pain, pale skin, numbness and tingling.

17. When applying a bandage, what is the most common error? Applying the bandage too loosely.
- 18.
- a. Do not remove the object.
  - b. Immobilize the object.
19. ALL OF THEM (A-G)
- 20.
- a. Treat for shock
  - b. Give nothing by mouth
  - c. Evacuate as soon as possible
21. The two principle symptoms of a sucking chest wound are a hole in the chest wall and the coughing up of bright red, frothy blood.
22. The wound must be sealed to prevent air from being sucked in during inhalation and out during exhalation.
- 23.
- a. Nausea and vomiting
  - b. Pain
  - c. Tenderness
  - d. Muscle spasms or stiffening of the abdominal muscles
  - e. Shock
  - f. Bruises and abrasions
24. Hollow organs may dispense bacteria and chemicals into the abdominal cavity, whereas solid organs will bleed.
- 25.
- a. Place the casualty on his back with his legs flexed
  - b. Expose the wound for treatment
  - c. Do not attempt to replace any exposed or protruding organs
  - d. Apply a wet or moist dressing
  - e. Treat for shock and evacuate
- 26.
- a. First degree
  - b. Second degree
  - c. Third degree
27. A reddened, painful burn, affecting the outer layer of the skin is a first degree burn.
28. A second degree burn has blisters.
- 29.
- a. Immerse the burn in cold water to relieve pain
  - b. Cover with a moist, sterile dressing
  - c. Do not puncture blisters
  - d. Do not apply creams or ointments
  - e. Transport to a medical facility